SPECweb99_SSL Result

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Hewlett-Packard: HP Integrity rx2600
Zeus Technology Limited: Zeus 4.2r2

SPECweb99_SSL =1930

Test Date: Jun-2003
Tester: Hewlett-Packard Company

Hardware Avail:	Jul-2003	OS Avail:	Sep-2003	HTTPS Software Avail:	Mar-2003	Sup. Software Avail:	Sep-2003	SPEC license #:	3

Hardware

Vendor:	Hewlett-Packard
Model:	HP Integrity rx2600
Processor:	1.5 GHz Intel Itanium 2 6M
# Processors:	2 cores, 2 chips, 1 core/chip
Primary Cache:	16KBI+16KBD on chip
Secondary Cache:	256KB unified on chip
Other Cache:	6144KB unified on chip
Memory:	12 GB (12x1GB)
Disk Subsystem:	3x36GB (15K RPM)
Disk Controllers:	SCSI C896 UW SE (internal)
Other Hardware:	2xAlteon 180e Switches

Software

Operating System:	HP-UX 11i v2
File System:	See SUT Notes
Other Software:	B3913DB C.05.36 HP aC++/C

HTTPS Software

Vendor:	Zeus Technology Limited
HTTPS Software:	Zeus 4.2r2
API:	ISAPI
Server Cache:	None
Log Mode:	Binary Log Format

Test Sponsor

Test Date:	Jun-2003
Tested By:	Hewlett-Packard Company
SPEC License:	3

Network

# of Controllers:	2
Network Controllers:	HP A6847A PCI Gigabit Ethernet
# of Nets:	2
Type of Nets:	Gigabit Ethernet
Network Speed:	1 Gb/s
MSL (sec):	30 (Non RFC1122)
Time-Wait (sec):	60 (Non RFC1122)
MTU:	1500

Clients

# of Clients:	8
Model:	HP 9000/A500-5X
Processor:	550 Mhz PA-8600
# of Processors:	2
Memory:	4 GB
Network Controller:	HP A4926A Gigabit Ethernet
Operating System:	HP-UX 11i
Compiler:	B3901BA B.11.11.04 HP C/ANSI C

Notes/Tuning Information

SUT Notes

1 (36 GB 10K RPM) disk with vxfs used for OS
1 (36 GB 10K RPM) disk with hfs used for the file_set
1 (18 GB 15K RPM) disk with hfs with largefiles, behind used for logs
Bound each Zeus instance to the processor corresponding to its NIC
Processor binding is performed by: mpsched -c cpu# -p pid
Set page size attribute for zeus.web, zeus.cgi binaries and zeus.cgi in zeus-kit
chatr +pd 64k +pi 64k zeus.cgi
chatr +pd 64M +pi 64M zeus.web

Operating System Notes

HP-UX Tunable Parameters:
dbc_max_pct=25 Max Buffer Cache Size as Percent of RAM (50)
dbc_min_pct=25 Min bufer Cache Size as Percent of RAM (5)
maxfiles=60000 Soft File Limit per Process (60)
maxfiles_lim=60000 Hard File Limit per Process (1024)
nfile=120000 Max number of open files (790)
ninode=120000 Max number of inodes (444)
tcphashsz=16384 Relative Scaling Factor for TCP & IP Int. Tables(2048)
vps_ceiling=4096 Max System selected page size [KB] (16)
vps_pagesize=64 Default User page size [KB] (4)
fs_async=1 Enables asynchrous writes of file-system data structures Boolean (0)
vxfs_ifree_timelag=3600000 VxFS Free Inode minimum existence time (0)
scsi_max_qdepth=64 Maximum number of concurrent requests to a SCSI device (8)
create_fastlinks=1 Enables storage of symbolic links in HFS inode structures (Boolean) (0)
maxdsiz_64bit 274877906944 Maximum size of the data segment of a 64-bit process (bytes) (4294967296)

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Global Parameters in global.cfg:
tuning!cache_files 356750
tuning!cache_max_bytes 0
tuning!cache_small_file 0
tuning!cache_large_file 1048576
tuning!cache_stat_expire 86400
tuning!cache_flush_interval 86400
tuning!listen_queue_size 8192
tuning!multiple_accept yes
tuning!so_rbuff_size 0
tuning!so_wbuff_size 1048576
tuning!cbuff_size 65536
tuning!keepalive yes
tuning!keepalive_timeout 1200
tuning!keepalive_max -1
tuning!timeout 600
tuning!unique_bind yes
tuning!bind_any no
tuning!sendfile no
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!ssl_keepalive yes
tuning!ssl_sessioncache_size 5011
tuning!ssl_sessioncache_expiry 120
tuning!ssl_diskcache no
tuning!softservers no
tuning!use_poll no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled no
tuning!cache_cooling_time 0
tuning!maxaccept 2048
Zeus runningsite configuration:
modules!security!enabled yes
modules!cgi!enabled yes
modules!isapi!enabled yes

HTTP API Notes

Zeus PEPP Toolkit(0.8) used for SPECweb99_SSL dynamic content
./Configure --checkconfig=yes --locking=semop --ssl=yes --64bit=yes --sendfile=no
compiled with HP C/ANSI C developer's Bundle (B3901BA)
CFLAGS=+Ofaster +DD64 +DSitanium2
LDFLAGS = +DSitanium2,+pd,64k,+pi,64k

Network Notes

Networking Tunable Parameters:
tcp_xmit_hiwater_def=2000000 Max unsent data triggers flow control(32768)
tcp_conn_request_max=2048 Max outstanding connection reqs (20)
socket_caching_tcp=4096 Controls socket caching for TCP sockets (512)

Gigabit Tunable Parameters:

send_max_bufs=128 Number of sending buffers consumed to trigger interrupt (16)
recv_max_bufs=128 Number of receiving buffers consumed to trigger interrupt (16)
recv_coal_ticks=12000 Number of ticks to wait to trigger interrupt (0)
send_coal_ticks=5000 Number of ticks to wait to trigger interrupt (0)

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Notes/Tuning Information (Continued)

Client Notes

Client code generated with ./configure --enable-posix-threads
HP-UX Tunable Parameters:
max_thread_proc=800 Number of threads per process (64)
maxusers=256 Value of MAXUSERS macro (32)
ncallout=5000 Increase number of pending timeouts
nkthread=8000 Maximum number of system-wide threads (499)
ninode=5000 Maximum number of inodes (444)
nfile=4096 Maximum number of open files (790)
maxswapchunks=2048 Maximum number of swap chunks (256)

Other Notes

Tuning Disclosure: HP-20030626.txt
Dynamic API: HP-20020723.-API.tar.gz